



Serial No.: 10/029,206

REMARKS

The application has been amended to replace the Sequence Listing with the attached substitute Sequence Listing. Submitted herewith is the substitute Sequence Listing (Appendix A) and a marked-up version of the substitute Sequence Listing with markings to show changes made (Appendix B). It is respectfully submitted that no new matter has been added by the amendment. Modifications have been made in response to the Notice to Comply. Such modifications include a change in the title of the invention from "Gene regulator" to "Oligopeptide treatment of anthrax" to accurately reflect the as-filed title of the referenced application, a change in the feature description from "MISC" to "MISC_FEATURE" in SEQ ID NOS: 97 and 98, a change in the alignment of the amino acid numbering in SEQ ID NOS: 173 and 174, and a change in the value indicating the number of amino acids in SEQ ID NO: 175 from "10" to "9" as only 9 amino acids are in the sequence.

If any questions remain after consideration of the instant amendments, the Office is kindly requested to contact applicants' attorney at the address or telephone number given herein.

Respectfully submitted,

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ACT/TLW/

Enclosures: Appendices A and B

APPENDIX A
CLEAN VERSION OF SUBSTITUTE SEQUENCE LISTING
(Application Serial No. 10/029,206)



SEQUENCE LISTING

<110> Khan, Nisar A.
Benner, Robert

<120> Oligopeptide treatment of anthrax

<130> 2183-5222US

<140> 10/029,206

<141> 2001-12-21

<150> 09/821,380

<151> 2001-03-29

<160> 175

<170> PatentIn Ver. 2.1

<210> 1

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<223> Description of Artificial Sequence: oligopeptide

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<210> 2

<211> 4

<212> PRT

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<400> 2

Ala Gln Gly Val

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<210> 3

<211> 6

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<211> 7
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<210> 8

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 1 5

<210> 9
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<210> 29
<211> 7
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<210> 30

<211> 7

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Val Leu Ala Ala Leu Pro Gln
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<210> 31

<211> 7

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<210> 32

<211> 7

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Gly Val Leu Pro Ala Leu Pro
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<210> 33

<211> 8

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Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro
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Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu
20 25 30

Ser Cys Gln Cys Ala Leu
35

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Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys
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<211> 20
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Cys

<210> 45
<211> 35
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Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu
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Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly Tyr
20 25 30

Cys Pro Thr
35

<210> 46
<211> 21
<212> PRT
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His Pro Leu Thr Cys
20

<210> 47
<211> 18
<212> PRT
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Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu
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Thr Cys

<210> 48
<211> 37
<212> PRT
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<220>
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signalling molecule

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Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Ser Lys Ala Pro
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Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr
20 25 30

Pro Ile Leu Pro Gln
35

<210> 49
<211> 10
<212> PRT
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signalling molecule

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Leu Gln Gly Val Leu Pro Ala Leu Pro Gln
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<210> 50
<211> 10
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<210> 51
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<210> 52

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pdb/1DL6/1DL6-A

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Leu Pro Lys Leu
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<211> 5
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<210> 61
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<210> 62
<211> 4
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pdb/1GLU/1GLU-A

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<210> 63
<211> 4
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pdb/2KIN/2KIN-B

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Met Thr Arg Ile
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<211> 4
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pdb/1SMP/1SMP-I

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<210> 65
<211> 5
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pdb/1SMP/1SMP-I

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<210> 66
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pdb/1SMP/1SMP-I

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Leu Gln Lys Leu Leu Pro Glu Ala Pro
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<210> 68
<211> 4
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<210> 69
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1 5

<210> 70
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pdb/1BHX/1BHX-F

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<210> 71
<211> 4
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<210> 74
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<210> 75
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<210> 77
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<210> 78
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1 5

<210> 79
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<210> 80
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<210> 82
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<210> 84
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Leu Ala Ala Leu Pro
1 5

<210> 85
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<210> 86
<211> 6
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pdb/1A78/1A78-A

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Val Leu Pro Ser Ile Pro
1 5

<210> 87
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<210> 88
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<211> 4

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<211> 5

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pdb/1HSS/1HSS-A

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Val Pro Ala Leu Pro

1

5

<210> 91

<211> 4

<212> PRT

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<223> Description of Artificial Sequence:

pdb/1PRX/1PRX-A

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Pro Thr Ile Pro

1

<210> 92

<211> 6

<212> PRT

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pdb/1PRX/1PRX-A

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Val Leu Pro Thr Ile Pro

1

5

<210> 93
<211> 6
<212> PRT
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Val Leu Pro Gly Phe Pro
1 5

<210> 94
<211> 4
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<210> 95
<211> 5
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<220>
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pdb/1GER/1GER-A

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Leu Pro Ala Leu Pro
1 5

<210> 96
<211> 5
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<220>
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<210> 97
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1 5 10 15

Cys

<210> 98
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Cys

<210> 100
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Lys Val Ile Gln Gly Ser Leu Asp Ser Leu Pro Gln Ala Val
1 5 10

<210> 102

<211> 4

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<400> 102

Leu Asp Ser Leu

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Val Leu Gln Ala Ile Leu Pro Ser Ala Pro Gln
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<210> 104

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<212> PRT

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Leu Gln Ala Ile Leu
1 5

<210> 105
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Pro Ser Ala Pro
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Lys Val Leu Gln Gly Arg Leu Pro Ala Val Ala Gln Ala Val
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<210> 107
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
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<400> 107
Leu Pro Ala Val
1

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1 5 10

<210> 109
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<210> 110
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Pro Met Leu Pro
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<210> 111
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Leu Pro Gly Cys Pro Arg His Phe Asn Pro Val
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<210> 113
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Leu Val Gly Cys Pro Arg Asp Tyr Asp Pro Val
1 5 10

<210> 114

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<400> 114

Leu Val Gly Cys
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<210> 115

<211> 6

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<400> 115

Pro Gly Cys Pro Arg Gly
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Leu Pro Gly Cys Pro
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<210> 117

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sptrembl/056177/056177

<400> 117
Val Leu Pro Ala Ala Pro
1 5

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sptrembl/Q9W234/Q9W234

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Leu Ala Gly Thr Ile Pro Ala Thr Pro
1 5

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<210> 120
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Pro Arg Gly Pro
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pdb/1DU3/1DU3-A

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Gly Cys Pro Arg Gly Met
1 5

<210> 126
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1

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pdb/1FL7/1FL7-B

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pdb/1HR6/1HR6-A

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<210> 129
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1

<210> 130
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<210> 131
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1 5

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Cys Pro Arg Glu
1

<210> 133
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swissnew/P01229/LSHB HUMAN

<400> 133
Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val
1 5 10 15

Cys

<210> 134
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swissnew/P01229/LSHB HUMAN

<400> 134
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<210> 135
<211> 6
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1 5

<210> 136
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swissnew/P01229/LSHB HUMAN

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<210> 137
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swissnew/P01229/LSHB HUMAN

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Ala Val Leu Pro Pro Leu Pro

1

5

<210> 138
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swissnew/P01229/LSHB HUMAN

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1 5

<210> 139
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Cys

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1 5

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swissnew/P07434/CGHB PAPAN

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1 5

<210> 143
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swissnew/P07434/CGHB PAPAN

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1 5

<210> 144
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swissnew/P07434/CGHB PAPAN

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<210> 145
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swissnew/Q28376/TSHB HORSE

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Met Thr Arg Asp
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swissnew/Q28376/TSHB HORSE

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1

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sptrembl/Q9Z284/Q9Z284

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Pro Ala Leu Pro Ser
1 5

<210> 149
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sptrembl/Q9UCG8/Q9UCG8

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1 5

<210> 150
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Gly Gly Pro Arg
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<210> 152
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<220>
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Leu Gln Arg Gly Val

1 5

<210> 154
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<210> 155
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1 5 10

<210> 156
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<220>
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type I (A_0201)

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Val Leu Gln Gly Val Leu Pro Ala Leu
1 5

<210> 157
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type I (A_0201)

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Gly Val Leu Pro Ala Leu Pro Gln Val
1 5

<210> 158
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type I (A_0201)

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Val Leu Pro Ala Leu Pro Gln Val Val
1 5

<210> 159
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type I (A_0201)

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1 5

<210> 160
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<220>
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type I (A_0201)

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1 5

<210> 161
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<220>
<223> Description of Artificial Sequence: MHC II (H2-Ak
15-mers)

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Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu
1 5 10 15

<210> 162
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<220>
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Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val
1 5 10 15

<210> 163
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<220>
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15-mers

<400> 163
Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser
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15-mers

<400> 164
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1 5 10 15

<210> 165
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<212> PRT
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<220>
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15-mers

<400> 165
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1 5 10 15

<210> 166
<211> 15
<212> PRT
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<220>
<223> Description of Artificial Sequence: HLA-DRB1*0301
(DR17) 15-mers

<400> 166
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val
1 5 10 15

<210> 167
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
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(DR17) 15-mers

<400> 167
Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val
1 5 10 15

<210> 168
<211> 7
<212> PRT
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<220>
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peptide

<400> 168
Val Ala Pro Ala Leu Pro Gln
1 5

<210> 169
<211> 35
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<220>
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peptide

<400> 169
Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu
20 25 30

Ser Cys Gln
35

<210> 170
<211> 7
<212> PRT
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<220>
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peptide

<400> 170
Cys Pro Arg Gly Val Asn Pro
1 5

<210> 171
<211> 14
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<220>
<223> Description of Artificial Sequence: NMPF-70
peptide

<400> 171
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln
1 5 10

<210> 172
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
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peptide

<400> 172
Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly
1 5 10 15

Pro Cys

<210> 173
<211> 7
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<220>

<223> Description of Artificial Sequence: NMPF-56
peptide

<400> 173
Val Ala Pro Ala Leu Pro Gln
1 5

<210> 174
<211> 17
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<220>

<223> Description of Artificial Sequence: NMPF-71
peptide

<400> 174
Met Thr Arg Val Leu Pro Gly Val Leu Pro Ala Leu Pro Gln Val Val
1 5 10 15

Cys

<210> 175
<211> 9
<212> PRT
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<220>

<223> Description of Artificial Sequence: NMPF peptide

<400> 175
Cys Arg Gly Val Asn Pro Val Val Ser
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APPENDIX B
MARKED-UP VERSION OF SUBSTITUTE SEQUENCE LISTING
WITH MARKINGS TO SHOW CHANGES MADE
(Application Serial No. 10/029,206)

SEQUENCE LISTING

<110> Khan, Nisar A.
Benner, Robert

<120> Gene regulatorOligopeptide treatment of anthrax

<130> 2183-5222US

<140> 10/029,206
<141> 2001-12-21

<150> 09/821,380
<151> 2001-03-29

<160> 175

<170> PatentIn Ver. 2.1

<210> 1
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<210> 2

<211> 4
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<223> Description of Artificial Sequence: oligopeptide

<400> 2

Ala Gln Gly Val
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<210> 3

<211> 6
<212> PRT
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<220>

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<400> 3

Val Leu Pro Ala Leu Pro
1 5

<210> 4
<211> 16
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<220>
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Met Leu Ala Arg Arg Lys Pro Val Leu Pro Ala Leu Thr Ile Asn Pro
1 5 10 15

<210> 5
<211> 7
<212> PRT
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<220>
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Met Leu Ala Arg Arg Lys Pro
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<210> 6
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<220>
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<211> 6
<212> PRT
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<220>
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Val Leu Pro Ala Leu Thr
1 5

<210> 8

<211> 5
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 1 5

<210> 9
<211> 4
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 pdb/4NOS/4NOS-A

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<210> 10
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Pro Gly Cys Pro
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<210> 12
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1 5

<210> 13
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pdb/1FZV/1FZV-A

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<210> 14
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1 5

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<210> 16
<211> 5
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<220>
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Val Pro Arg Gly Val
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<210> 17
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<210> 18
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<210> 19
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<220>
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<400> 19
Leu Gln Gly Ala
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<210> 20
<211> 10
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<220>
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Val Leu Pro Ala Leu Pro Gln Val Val Cys
1 5 10

<210> 21
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Ala Leu Pro Ala Leu Pro
1 5

<210> 22
<211> 6
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<400> 22
Val Ala Pro Ala Leu Pro
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<210> 23
<211> 7
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Ala Leu Pro Ala Leu Pro Gln
1 5

<210> 24
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1 5

<210> 25
<211> 7
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<400> 25
Val Leu Pro Ala Leu Ala Gln
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<210> 26
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<400> 26
Leu Ala Gly Val
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<210> 27
<211> 6
<212> PRT
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<220>
<223> Description of Artificial Sequence: oligopeptide

<400> 27
Val Leu Ala Ala Leu Pro
1 5

<210> 28
<211> 6
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<400> 28
Val Leu Pro Ala Leu Ala
1 5

<210> 29
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<400> 29

Val Leu Pro Ala Leu Pro Gln
1 5

<210> 30

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<223> Description of Artificial Sequence: oligopeptide

<400> 30

Val Leu Ala Ala Leu Pro Gln
1 5

<210> 31

<211> 7

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<400> 31

Val Leu Pro Ala Leu Pro Ala
1 5

<210> 32

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<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 32

Gly Val Leu Pro Ala Leu Pro
1 5

<210> 33

<211> 8

<212> PRT

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<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 33
Gly Val Leu Pro Ala Leu Pro Gln
1 5

<210> 34
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<220>
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Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys
1 5 10

<210> 35
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligopeptide

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Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu
20 25 30

Ser Cys Gln Cys Ala Leu
35

<210> 36
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
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Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys
1 5 10 15

<210> 37
<211> 20
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<220>
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Glu Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly
1 5 10 15

Tyr Cys Pro Thr
20

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1 5 10 15

Pro Ser

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<223> Description of Artificial Sequence: oligopeptide

<400> 39
Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser
1 5 10 15

<210> 40
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: oligopeptide

<400> 40
Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser
1 5 10

<210> 41
<211> 4
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 41
Leu Pro Gly Cys
1

<210> 42
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 42
Met Thr Arg Val
1

<210> 43
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: oligopeptide

<400> 43
Gln Val Val Cys
1

<210> 44
<211> 17
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: peptide
signalling molecule

<400> 44
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val
1 5 10 15

Cys

<210> 45
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
signalling molecule

<400> 45
Arg Pro Arg Cys Arg Pro Ile Asn Ala Thr Leu Ala Val Glu Lys Glu
1 5 10 15

Gly Cys Pro Val Cys Ile Thr Val Asn Thr Thr Ile Cys Ala Gly Tyr
20 25 30

Cys Pro Thr
35

<210> 46
<211> 21
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
signalling molecule

<400> 46
Cys Ala Leu Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp
1 5 10 15

His Pro Leu Thr Cys
20

<210> 47
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
signalling molecule

<400> 47
Cys Arg Arg Ser Thr Thr Asp Cys Gly Gly Pro Lys Asp His Pro Leu
1 5 10 15

Thr Cys

<210> 48
<211> 37
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
signalling molecule

<400> 48
Thr Cys Asp Asp Pro Arg Phe Gln Asp Ser Ser Ser Lys Ala Pro
1 5 10 15

Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly Pro Ser Asp Thr
20 25 30

Pro Ile Leu Pro Gln
35

<210> 49
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide
signalling molecule

<400> 49
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln
1 5 10

<210> 50
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NMPPF peptide

<400> 50
Cys Pro Arg Gly Val Asn Pro Val Val Ser
1 5 10

<210> 51
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: probe to
represent the NF-kappaB binding sequence

<400> 51
agctcagagg gggactttcc gagag 25

<210> 52

<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: peptide LQAV
showed smaller infarcted area

<400> 52
Leu Gln Ala Val
1

<210> 53
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1DE7/1DE7-A

<400> 53
Leu Gln Gly Val Val
1 5

<210> 54
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1DE7/1DE7-A

<400> 54
Leu Gln Gly Val Val Pro
1 5

<210> 55
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1DL6/1DL6-A

<400> 55
Leu Asp Ala Leu Pro
1 5

<210> 56

<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1QMH/1QMH-A

<400> 56
Leu Gln Thr Val
1

<210> 57
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1QMH/1QMH-A

<400> 57
Leu Val Leu Gln Thr Val Leu Pro Ala Leu
1 5 10

<210> 58
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1LYP/1LYP

<400> 58
Ile Gln Gly Leu
1

<210> 59
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1LYP/1LYP

<400> 59
Leu Pro Lys Leu
1

<210> 60
<211> 5
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1LYP/1LYP

<400> 60
Leu Leu Pro Lys Leu
1 5

<210> 61
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1B90/1B90-A

<400> 61
Leu Pro Glu Leu
1

<210> 62
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1GLU/1GLU-A

<400> 62
Pro Ala Arg Pro
1

<210> 63
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/2KIN/2KIN-B

<400> 63
Met Thr Arg Ile
1

<210> 64
<211> 4
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1SMP/1SMP-I

<400> 64
Leu Gln Lys Leu
1

<210> 65
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1SMP/1SMP-I

<400> 65
Leu Gln Lys Leu Leu
1 5

<210> 66
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1SMP/1SMP-I

<400> 66
Pro Glu Ala Pro
1

<210> 67
<211> 9
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1SMP/1SMP-I

<400> 67
Leu Gln Lys Leu Leu Pro Glu Ala Pro
1 5

<210> 68
<211> 4
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1ES/1ES7-B

<400> 68
Pro Thr Leu Pro
1

<210> 69
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1ES/1ES7-B

<400> 69
Leu Gln Pro Thr Leu
1 5

<210> 70
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1BHX/1BHX-F

<400> 70
Leu Gln Val Val
1

<210> 71
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:
pdb/1VCB/1VCB-A

<400> 71
Pro Glu Leu Pro
1

<210> 72
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
 pdb/1CQK/1CQK-A

<400> 72
Pro Ala Ala Pro
 1

<210> 73
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
 pdb/1CQK/1CQK-A

<400> 73
Pro Ala Ala Pro Gln
 1 5

<210> 74
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
 pdb/1CQK/1CQK-A

<400> 74
Pro Ala Ala Pro Gln Val
 1 5

<210> 75
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 75
Leu Pro Ala Leu
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<210> 76
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 76
Pro Ala Leu Pro
1

<210> 77
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1BFB/1BFB

<400> 77
Pro Ala Leu Pro Glu
1 5

<210> 78
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1R2A/1R2A-A

<400> 78
Leu Thr Glu Leu Leu
1 5

<210> 79
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: C3G peptide

<400> 79
Pro Pro Pro Ala Leu Pro Pro Lys Lys Arg
1 5 10

<210> 80
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1RLQ/1RLQ-R

<400> 80
Leu Pro Pro Leu
1

<210> 81
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1RLQ/1RLQ-R; swissnew/P01229/LSHB HUMAN

<400> 81
Pro Pro Leu Pro
1

<210> 82
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1TNT/1TNT

<400> 82
Leu Pro Gly Leu
1

<210> 83
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1GJS/1GJS-A

<400> 83
Leu Ala Ala Leu
1

<210> 84
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1GJS/1GJS-A

<400> 84

Leu Ala Ala Leu Pro
1 5

<210> 85
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1GBR/1GBR-B

<400> 85
Pro Lys Leu Pro
1

<210> 86
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1A78/1A78-A

<400> 86
Val Leu Pro Ser Ile Pro
1 5

<210> 87
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1FZV/1FZV-A

<400> 87
Met Leu Pro Ala Val Pro
1 5

<210> 88
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1JLI/1JLI

<400> 88
Leu Pro Cys Leu

1

<210> 89
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1JLI/1JLI

<400> 89
Pro Cys Leu Pro
1

<210> 90
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1HSS/1HSS-A

<400> 90
Val Pro Ala Leu Pro
1 5

<210> 91
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1PRX/1PRX-A

<400> 91
Pro Thr Ile Pro
1

<210> 92
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1PRX/1PRX-A

<400> 92
Val Leu Pro Thr Ile Pro
1 5

<210> 93
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1RCY/1RCY

<400> 93
Val Leu Pro Gly Phe Pro
1 5

<210> 94
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1A3Z/1A3Z

<400> 94
Pro Gly Phe Pro
1

<210> 95
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1GER/1GER-A

<400> 95
Leu Pro Ala Leu Pro
1 5

<210> 96
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1BBS/1BBS

<400> 96
Met Pro Ala Leu Pro
1 5

<210> 97
<211> 17

<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: AI188872

<220>
<221> MISC FEATURE
<222> (2)
<223> The 'Xaa' at position 2 indicates an unknown amino acid

<400> 97
Met Xaa Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val
1 5 10 15

Cys

<210> 98
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: AI188872

<220>
<221> MISC FEATURE
<222> (2)
<223> The 'Xaa' at position 2 indicates an unknown amino acid

<400> 98
Met Xaa Arg Val
1

<210> 99
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: AI126906

<400> 99
Ile Thr Arg Val Met Gln Gly Val Ile Pro Ala Leu Pro Gln Val Val
1 5 10 15

Cys

<210> 100
<211> 16
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: AI221581

<400> 100
Met Thr Arg Val Leu Gln Val Val Leu Leu Ala Leu Pro Gln Leu Val
1 5 10 15

<210> 101
<211> 14
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.42246.3

<400> 101
Lys Val Ile Gln Gly Ser Leu Asp Ser Leu Pro Gln Ala Val
1 5 10

<210> 102
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.42246.3

<400> 102
Leu Asp Ser Leu
1

<210> 103
<211> 11
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.22430.1

<400> 103
Val Leu Gln Ala Ile Leu Pro Ser Ala Pro Gln
1 5 10

<210> 104
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.22430.1

<400> 104
Leu Gln Ala Ile Leu
1 5

<210> 105
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mm.22430.1

<400> 105
Pro Ser Ala Pro
1

<210> 106
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hs.63758.4

<400> 106
Lys Val Leu Gln Gly Arg Leu Pro Ala Val Ala Gln Ala Val
1 5 10

<210> 107
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hs.63758.4

<400> 107
Leu Pro Ala Val
1

<210> 108
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mm.129320.2

<400> 108
Leu Val Gln Lys Val Val Pro Met Leu Pro Arg Leu Leu Cys
1 5 10

<210> 109
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mm.129320.2

<400> 109
Leu Pro Arg Leu
1

<210> 110
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mm.129320.2

<400> 110
Pro Met Leu Pro
1

<210> 111
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Mm.22430.1

<400> 111
Pro Ser Ala Pro Gln
1 5

<210> 112
<211> 11
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: P20155

<400> 112
Leu Pro Gly Cys Pro Arg His Phe Asn Pro Val
1 5 10

<210> 113
<211> 11
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Rn.2337.1

<400> 113
Leu Val Gly Cys Pro Arg Asp Tyr Asp Pro Val
1 5 10

<210> 114
<211> 4
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Rn.2337.1

<400> 114
Leu Val Gly Cys
1

<210> 115
<211> 6
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Hs.297775.1

<400> 115
Pro Gly Cys Pro Arg Gly
1 5

<210> 116
<211> 5
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Mm.1359.1

<400> 116
Leu Pro Gly Cys Pro
1 5

<210> 117
<211> 6
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:

sptrembl/056177/056177

<400> 117
Val Leu Pro Ala Ala Pro
1 5

<210> 118
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
sptrembl/Q9W234/Q9W234

<400> 118
Leu Ala Gly Thr Ile Pro Ala Thr Pro
1 5

<210> 119
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
sptrembl/Q9W234/Q9W234

<400> 119
Pro Ala Thr Pro
1

<210> 120
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
sptrembl/Q9IYZ3/Q9IYZ3

<400> 120
Gly Leu Leu Pro Cys Leu Pro
1 5

<210> 121
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:

sptrembl/Q9PVW5/Q9PVW5

<400> 121
Pro Gly Ala Pro
1

<210> 122
<211> 10
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
sptrembl/Q9PVW5/Q9PVW5

<400> 122
Leu Pro Gln Arg Pro Arg Gly Pro Asn Pro
1 5 10

<210> 123
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
sptrembl/Q9PVW5/Q9PVW5

<400> 123
Pro Arg Gly Pro
1

<210> 124
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Hs.303116.2

<400> 124
Gly Cys Pro Arg
1

<210> 125
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1DU3/1DU3-A

<400> 125
Gly Cys Pro Arg Gly Met
1 5

<210> 126
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1BIO/1BIO

<400> 126
Leu Gln His Val
1

<210> 127
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1FL7/1FL7-B

<400> 127
Val Pro Gly Cys
1

<210> 128
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
pdb/1HR6/1HR6-A

<400> 128
Cys Pro Arg Gly
1

<210> 129
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:pdb/1H6/1HR6-A

<400> 129

Leu Lys Gly Cys
1

<210> 130
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 130
Pro Pro Gly Pro
1

<210> 131
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 131
Leu Pro Gly Cys Pro Arg Glu Val
1 5

<210> 132
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: pdb/1BFA/1BFA

<400> 132
Cys Pro Arg Glu
1

<210> 133
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P01229/LSHB HUMAN

<400> 133
Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Leu Pro Gln Val Val
1 5 10 15

Cys

<210> 134
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P01229/LSHB HUMAN

<400> 134
Met Met Arg Val
1

<210> 135
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P01229/LSHB HUMAN

<400> 135
Val Leu Pro Pro Leu Pro
1 5

<210> 136
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P01229/LSHB HUMAN

<400> 136
Val Leu Pro Pro Leu Pro Gln
1 5

<210> 137
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P01229/LSHB HUMAN

<400> 137
Ala Val Leu Pro Pro Leu Pro

1

5

<210> 138
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P01229/LSHB HUMAN

<400> 138
Ala Val Leu Pro Pro Leu Pro Gln
1 5

<210> 139
<211> 17
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P07434/CGHB PAPAN

<400> 139
Met Met Arg Val Leu Gln Ala Val Leu Pro Pro Val Pro Gln Val Val
1 5 10 15

Cys

<210> 140
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P07434/CGHB PAPAN

<400> 140
Leu Gln Ala Gly
1

<210> 141
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P07434/CGHB PAPAN

<400> 141
Val Leu Pro Pro Val Pro
1 5

<210> 142
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P07434/CGHB PAPAN

<400> 142
Val Leu Pro Pro Val Pro Gln
1 5

<210> 143
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P07434/CGHB PAPAN

<400> 143
Ala Val Leu Pro Pro Val Pro
1 5

<210> 144
<211> 8
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/P07434/CGHB PAPAN

<400> 144
Ala Val Leu Pro Pro Val Pro Gln
1 5

<210> 145
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/Q28376/TSHB HORSE

<400> 145
Met Thr Arg Asp
1

<210> 146
<211> 4
<212> PRT
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<220>
<223> Description of Artificial Sequence:
swissnew/Q28376/TSHB HORSE

<400> 146
Gln Asp Val Cys
1

<210> 147
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
swissnew/Q28376/TSHB HORSE

<400> 147
Ile Pro Gly Cys
1

<210> 148
<211> 5
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
sptrembl/Q9Z284/Q9Z284

<400> 148
Pro Ala Leu Pro Ser
1 5

<210> 149
<211> 6
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:
sptrembl/Q9UCG8/Q9UCG8

<400> 149
Leu Pro Gly Gly Pro Arg
1 5

<210> 150
<211> 4
<212> PRT
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<220>
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sptrembl/Q9UCG8/Q9UCG8

<400> 150
Leu Pro Gly Gly
1

<210> 151
<211> 4
<212> PRT
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<220>
<223> Description of Artificial Sequence:
sptrembl/Q9UCG8/Q9UCG8

<400> 151
Gly Gly Pro Arg
1

<210> 152
<211> 4
<212> PRT
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<220>
<223> Description of Artificial Sequence: XP_028754

<400> 152
Leu Gln Arg Gly
1

<210> 153
<211> 5
<212> PRT
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<220>
<223> Description of Artificial Sequence: XP_028754

<400> 153
Leu Gln Arg Gly Val

1

5

<210> 154
<211> 4
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: XP_028754

<400> 154
Leu Gly Gln Leu
1

<210> 155
<211> 13
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: SignalP (CBS)

<400> 155
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro
1 5 10

<210> 156
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: HLA molecule
type I (A_0201)

<400> 156
Val Leu Gln Gly Val Leu Pro Ala Leu
1 5

<210> 157
<211> 9
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: HLA molecule
type I (A_0201)

<400> 157
Gly Val Leu Pro Ala Leu Pro Gln Val
1 5

<210> 158

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule
type I (A_0201)

<400> 158

Val Leu Pro Ala Leu Pro Gln Val Val
1 5

<210> 159

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule
type I (A_0201)

<400> 159

Arg Leu Pro Gly Cys Pro Arg Gly Val
1 5

<210> 160

<211> 9

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: HLA molecule
type I (A_0201)

<400> 160

Thr Met Thr Arg Val Leu Gln Gly Val
1 5

<210> 161

<211> 15

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: MHC II (H2-Ak
15-mers)

<400> 161

Cys Pro Thr Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu
1 5 10 15

<210> 162
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: MHC II (H2-Ak
15-mers)

<400> 162
Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val
1 5 10 15

<210> 163
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: HLA-DRB1*0101
15-mers

<400> 163
Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu Ser
1 5 10 15

<210> 164
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: HLA-DRB1*0101
15-mers

<400> 164
Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val
1 5 10 15

<210> 165
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: HLA-DRB1*0101
15-mers

<400> 165
Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val Val Cys Asn Tyr
1 5 10 15

<210> 166
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: HLA-DRB1*0301
(DR17) 15-mers

<400> 166
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln Val
1 5 10 15

<210> 167
<211> 15
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: HLA-DRB1*0301
(DR17) 15-mers

<400> 167
Ser Ile Arg Leu Pro Gly Cys Pro Arg Gly Val Asn Pro Val Val
1 5 10 15

<210> 168
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NMPF-56
peptide

<400> 168
Val Ala Pro Ala Leu Pro Gln
1 5

<210> 169
<211> 35
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NMPF-62
peptide

<400> 169
Val Val Cys Asn Tyr Arg Asp Val Arg Phe Glu Ser Ile Arg Leu Pro
1 5 10 15

Gly Cys Pro Arg Gly Val Asn Pro Val Val Ser Tyr Ala Val Ala Leu
20 25 30

Ser Cys Gln
35

<210> 170
<211> 7
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NMPF-67
peptide

<400> 170
Cys Pro Arg Gly Val Asn Pro
1 5

<210> 171
<211> 14
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NMPF-70
peptide

<400> 171
Met Thr Arg Val Leu Gln Gly Val Leu Pro Ala Leu Pro Gln
1 5 10

<210> 172
<211> 18
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: NMPF-75
peptide

<400> 172
Ser Lys Ala Pro Pro Pro Ser Leu Pro Ser Pro Ser Arg Leu Pro Gly
1 5 10 15

Pro Cys

<210> 173
<211> 7
<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF-56
peptide

<400> 173

Val Ala Pro Ala Leu Pro Gln
1 _____ 5

<210> 174

<211> 17

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF-71
peptide

<400> 174

Met Thr Arg Val Leu Pro Gly Val Leu Pro Ala Leu Pro Gln Val Val
1 _____ 5 _____ 10 _____ 15

Cys

<210> 175

<211> 109

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: NMPF peptide

<400> 175

Cys Arg Gly Val Asn Pro Val Val Ser
1 _____ 5